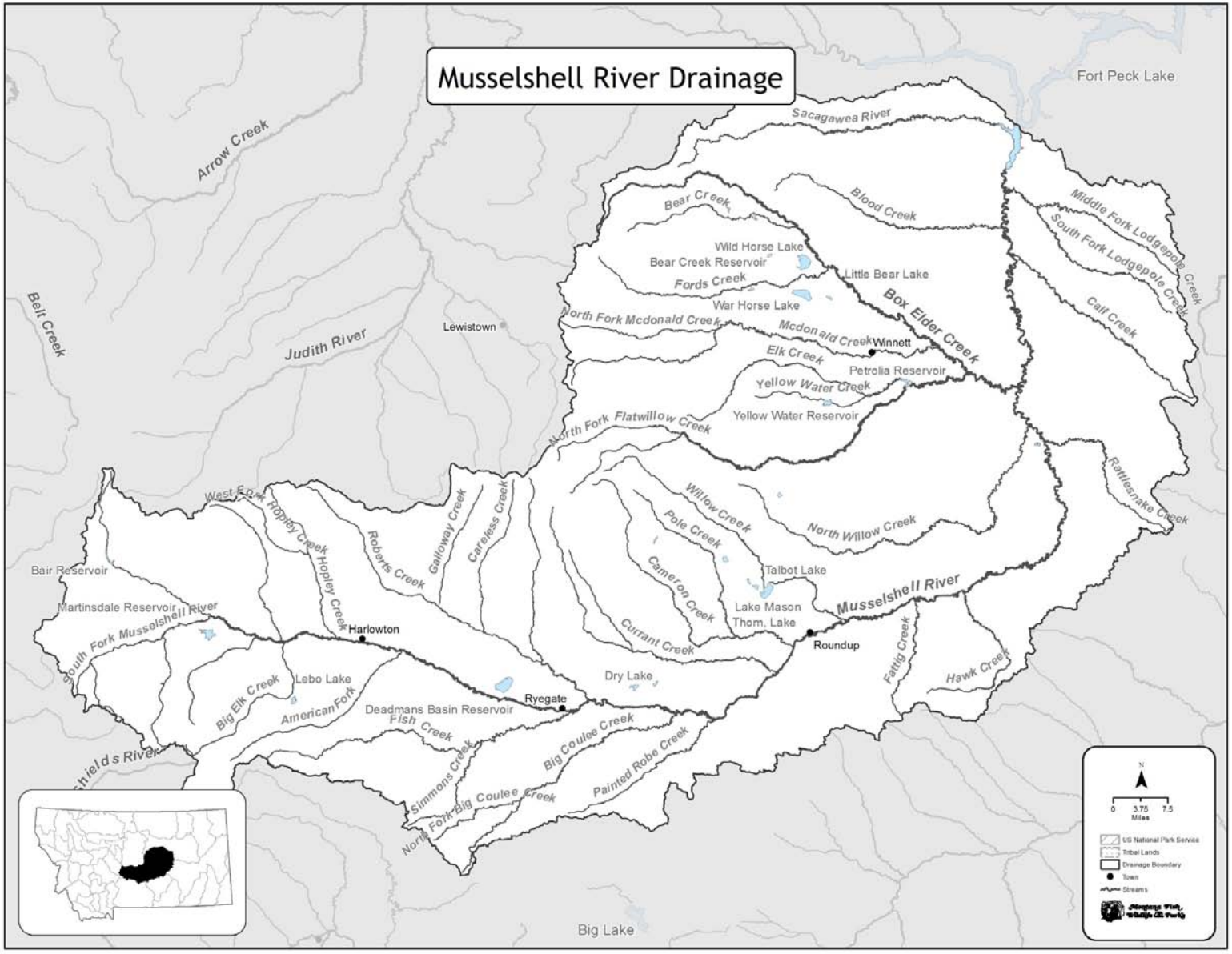
Musselshell River Drainage
Fort Peck Lake
Sacagawea River
Arrow Creek
Bear Creek
Blood Creek
Middle Fork Lodgepole Creek
South Fork Lodgepole Creek
Wild Horse Lake
Bear Creek Reservoir
Little Bear Lake
Fords Creek
War Horse Lake
Box Elder Creek
Calf Creek
Belt Creek
Judith River
Lewistown
North Fork Mcdonald Creek
Mcdonald Creek
Winnett
Elk Creek
Petrolia Reservoir
Yellow Water Creek
Yellow Water Reservoir
North Fork Flatwillow Creek
Rattlesnake Creek
Willow Creek
North Willow Creek
Pole Creek
Cameron Creek
Talbot Lake
Lake Mason
Thom. Lake
Musselshell River
Roundup
Currant Creek
Fattig Creek
Hawk Creek
Dry Lake
West Fork Hopley Creek
Hopley Creek
Roberts Creek
Galloway Creek
Careless Creek
Bair Reservoir
Martinsdale Reservoir
South Fork Musselshell River
Harlowton
Lebo Lake
Big Elk Creek
American Fork
Deadmans Basin Reservoir
Fish Creek
Ryegate
Big Coulee Creek
Painted Robe Creek
Simmons Creek
North Fork Big Coulee Creek
Big Lake
N
0 3.75 7.5
Miles
US National Park Service
Tribal Lands
Drainage Boundary
Town
Streams

MUSSELSHELL RIVER DRAINAGE

PHYSICAL DESCRIPTION

The Musselshell River headwaters start at approximately 9,200 feet elevation and converge with the Missouri River and Fort Peck Reservoir at 2,200 feet. The Musselshell flows from the confluence of the North and South forks (near the Wheatland and Meager county border) for nearly 340 miles. The North Fork flows nearly 32 miles, and the South Fork flows nearly 31 miles. The drainage area covers approximately 8,000 square miles and includes 7,601 surface acres of lakes or reservoirs within 36 individual waterbodies. Detailed fisheries studies from 1979 through 1986 divided the Musselshell into three zones, coldwater, transitional, and warmwater. The coldwater zone extends from the confluence of the North and South forks of the Musselshell near Martinsdale, to Barber (river mile 336 to 256). The transitional zone begins at Barber and extends to Roundup (river mile 256 to 180). The warmwater zone begins at Roundup and extends to its confluence with the Missouri River (river mile 180 to 0). Additionally, the tributaries in the coldwater zone are almost all dominated with coldwater fish species, while tributaries in the transitional and warmwater zones often start out with coldwater species then transition to warmwater species in the lower reaches.

Coldwater Zone

The coldwater zone of the Musselshell River is influenced by several tributaries in addition to the North and South forks. Major tributaries on the North Fork include Checkerboard and Spring creeks. Major tributaries to the South Fork include Alabaugh and Cottonwood creeks. Cottonwood Creek is a popular trout fishery on USFS lands with a fairly accessible mountain lake (Forest Lake). Tributaries downstream from the forks include Daisy Dean, Little Elk, Haymaker, Big Elk, Hopely, Antelope, Lebo, and American Fork creeks along with several smaller creeks. The average width of the Musselshell River in this zone in 1979 was reported to be 60 feet with a gradient of 20.5 feet per mile. Musselshell River substrates are dominated by gravels and cobble in this zone. This zone contains several irrigation storage reservoirs, which alter the natural hydrograph. Major reservoirs include, Bair Reservoir on the North Fork, Martinsdale, an off-channel reservoir on the South Fork, and Deadmans Basin an off channel reservoir on the mainstem. These three reservoirs store a combined volume of approximately 106,616 acre feet of water at full pool. Eleven irrigation diversions are found in the North Fork, South Fork, and mainstem of the Musselshell River, and are capable of diverting a total of 1,400 cfs. of water. Uncounted stock dams, smaller diversion dams and other obstructions are found in the tributary streams in this zone. The physical alterations to the river from water storage practices and irrigation infrastructure have been both beneficial and detrimental to fish populations in this reach. Some structures prevent upstream passage for fish and others, while passable, remove large quantities of water which severely limit in-channel water downstream of the diversions. Conversely, the storage reservoirs often deliver water back to the river for irrigation demands in the summer, which can help maintain some fisheries in periods of drought. Water quality is sometimes a concern in the Musselshell. Land use is dominated by grazing mixed with hay and crop land, and some riparian areas are severely degraded with loss of willow and cottonwood. Agricultural runoff and irrigation returns can increase salinity, nutrient levels

and sediment load, which increase water temperature and turbidity, and decrease dissolved oxygen. Water chemistry data indicate these influences occur throughout the Musselshell watershed starting in the upper reaches and are compounded downstream.

Transition Zone

The transition zone of the Musselshell is influenced by several tributaries including Fish, Careless, Big Coulee, Painted Robe, Dean, Currant, Goulding, Pole, and Halfbreed creeks. The tributaries in this reach are prone to dewatering and are normally dry or intermittent during irrigation season. The average width of the Musselshell River in this zone in 1979 was reported as 85 feet with a gradient of 6.6 feet per mile. The gradient is about a third of that in the coldwater section. Substrate in this section is characterized by gravels, sand, silt, and isolated sandstone rock slabs along sandstone cliffs.

Storage reservoirs are not found in this zone, although water releases from Deadmans Basin via a canal ultimately returns water into Careless Creek which is part of this zone. At least 10 irrigation diversions are found in this zone (four major diversions have been reported to be capable of diverting a total of 200 cfs), and several additional rock weirs appeared to be in place to raise the river stage for irrigation pumps. A few of the larger diversions were breached or flanked during the 2011 flood, with several still not repaired or replaced in spring of 2012. The physical alterations in this zone may seasonally preclude fish passage, and because the diversions lack screens, many fish are carried onto fields each year or trapped in canals and siphons when they are dewatered each fall. Water quality issues exist in this zone due to irrigation returns that increase salinity (sodium sulfate) and cause nutrient enrichment. Changes in operational releases of water from Deadmans Reservoir through Careless Creek have reduced, but not eliminated, these effects. The dewatering for irrigation purposes in this zone reduces the fishery potential by reducing available habitat.

Warmwater Zone

The warmwater zone of the Musselshell River is influenced by several tributaries: Willow, Flatwillow, Box Elder, Fattig, Hawk, Rattlesnake, Calf, and Lodgepole creeks, in addition to several small intermittent drainages. The average width of this zone in 1979 was reported as 100 feet, with an average gradient of 3 feet per mile, which is half of the transition zone's average gradient. Substrates in this zone are dominated by silt and sand, with some interspersed gravels and bedrock. Five major irrigation diversions have been reported to be capable of diverting a total of 418 cfs. Flatwillow Creek is the largest tributary in the warmwater zone. Petrolia Reservoir, an on-stream irrigation reservoir on Flatwillow Creek that has approximately 9,000 acre feet of storage,severely limits flow immediately downstream in Flatwillow Creek during low-water periods. At least seven dams can be found from Roundup to the Davis/Korenco Dam, three miles downstream of the town of Musselshell. No other major dams or diversions are known on the river from this point to the confluence with the Missouri River. Physical alterations to the river by diversion dams and check dams have fragmented the river during the periods outside of spring high flows. The Delphia Melstone Dam at Musselshell and the Davis/Korenko Dam downstream have been shown to preclude fish passage on a regular basis. Channel catfish and smallmouth bass were documented moving upstream of the Delphia Melstone Dam, but the movements were made during higher than average water events and population surveys have not

found substantial populations of game fish species above this dam. Other upstream dams also have the ability to reduce upstream passage of fish into the transition zone.

FISHERIES MANAGEMENT

Over 42.5 million fish were stocked in the Musselshell watershed by FWP from 1928 to 2009. The most commonly stocked species has been rainbow trout with over 27 million individuals totaling more than 1 million pounds stocked. Many of these have been stocked in major reservoirs in the drainage such as Martinsdale, Bair Reservoir, Deadman's Basin, Lebo, and Yellow Water. Essentially all stocking of trout directly into the river was halted by 1980. Stream stocking accounted for many of the rainbow trout from 1928 through 1982. Most rainbow trout recently found in the river are from reservoir stockings. Westslope cutthroat trout stocked into Bair Reservoir recently were found pioneering the river below the dam.

Coldwater Zone

The coldwater zone and associated tributaries support many species of fish such as brook trout, brown trout, rainbow trout, Yellowstone and westslope cutthroat, mountain whitefish, longnose dace, Rocky Mountain sculpin, longnose, shorthead redhorse, white, and mountain suckers, occasional fathead minnows, flathead chubs, common carp, stonecat, lake chub, northern redbelly dace, and northern redbellyxfinescale dace hybrids. The mainstem supports a good population of brown trout (comprising about 96% of the total trout) and mountain whitefish, while the tributaries support brook trout (about 56% of the total trout), and lesser numbers of rainbow and brown trout, mountain whitefish, and both species of cutthroat trout. Brown trout are also the most common species in much of the North and South forks. Arctic grayling (native to Montana, but not the Musselshell watershed) were stocked in the upper reaches of the South Fork of the Musselshell in two separate ponds in 1961; however, records indicate neither introduction became self -eproducing.

Brown trout population estimates have been completed at the Selkirk Fishing Access Site on an irregular basis since 1984. Current management plans are to conduct population estimates at this site once every 3 years. Many of the estimates attempted in the 2001-2008 time period were not completed, as recapture rates were low and the population consisted of a few larger adults and more abundant, but still relatively few juveniles. The poor population structure during this time was related to poor in-stream flow conditions during a drought. Brown trout population estimates ranged from a low of 17 total fish caught in an electrofishing effort to estimates of 890 brown trout per mile in 1992, which was attributed to a good spawn in 1991. Average density for all years is approximately 300 fish per mile, with about 150 of quality size and the remainder consisting of yearling fish.

Angling pressure in this zone is low. In 2009, the FWP Angler Survey indicated the Musselshell River in the cold zone received 1,750 angler days, with an additional 1,200 angler days in the North and South forks of the river.

Transition Zone

The transition zone supports at least 17 species of fish, but the abundance of sport fish is generally reported as low. Documented species include stonecat, several minnow species (carp, fathead minnow, flathead chub, lake chub, longnose dace, and western silvery minnow), several

sucker species (longnose, mountain, river carpsucker, and shorthead redhorse), smallmouth bass, brown trout and mountain whitefish. Additionally Deadmans Basin Reservoir in this zone contains stocked populations of rainbow trout, kokanee salmon, and tiger muskie. Atlantic salmon and coho salmon have also been stocked into Deadmans Basin, however those species are no longer in the reservoir or river. It is likely some catfish and sauger (at times of high water) are in this zone near Roundup, but they have not been reported in any survey from 1979 to present. Discussions with longtime anglers indicated sauger and catfish were more common in the 1950's and 1960's as far up as Lavina. Brown trout are found in the upper transition zone along with an occasional rainbow trout however in numbers much lower than those in the coldwater zone.

Warmwater game fish densities in this zone may be attributed to irrigation diversions inhibiting movements. The warmer river sections would likely provide good habitat for channel catfish if they could migrate upstream past existing barriers. Sauger would likely be found in this zone each spring, migrating back to the warmwater zone and Missouri River by midsummer if existing dams were passable. Food is not likely limiting, as forage fish populations found in this section of river are strong enough to support higher abundances of predatory fish than are currently found.

Smallmouth bass were stocked from 1977 to 1981 from Lavina to Roundup. This population didn't expand very quickly, and many of these stocked bass were later found downstream of the transition zone in the warmwater zone. Nonetheless, limited recruitment was documented, and the bass that were found in the transition zone were documented as some of the fastest in Montana. Reports by anglers indicate smallmouth bass have been caught as far up as Lavina, but good populations are not found until Roundup. These reports indicate several dams create barriers with water depletions compounding the effects and limiting upstream expansion. In combination with several barriers to upstream movement, warm water temperatures in the fall likely limit populations of smallmouth bass.

Deadmans Basin Reservoir is included in the transition zone because return water enters in the transition zone through the Barber Canal and Careless Creek. Any fish that move out of the reservoir could reach the river, however notable populations of rainbow trout, kokanee salmon, and tiger muskie have not been documented in the transition zone. The reservoir provides habitat for white, shorthead redhorse, and longnose suckers, carp, as well as a limited number of minnow species that enter the reservoir through the Deadmans canal. The Deadmans fishery relies heavily on a stocking program for rainbows, kokanee and tiger muskie. Without stocking, this reservoir would provide a limited fishery for brown trout that come from the coldwater zone via the Deadmans canal system.

In 2009, the FWP Angler Survey estimated that Deadmans Basin Reservoir received 9,702 angler days; 8,885 were from resident anglers. The reservoir ranked statewide as the 82nd most fished water out of over 1,430 different waters reported. The Musselshell River in the transition zone and warmwater zone received 3,647 angler days of use.

Warmwater Zone

Despite severe dewatering problems, high temperatures and poor water quality, the warmwater zone still contains a nearly intact native fish ecosystem. The warmwater zone has been

documented to support at least 31 species of fish. This species list includes catfish (black bullhead, channel catfish, and stonecat), minnows (brassy minnow, carp, emerald shiner, fathead minnow, flathead chub, longnose dace, plains minnow, sand shiner, spottail shiner, and western silvery minnow), suckers (longnose sucker, blue sucker, mountain sucker, river carpsucker, shorthead redhorse, smallmouth buffalo, bigmouth buffalo and white sucker), walleye, sauger, black crappie, bluegill, green sunfish, smallmouth bass, burbot, freshwater drum, goldeye, and northern pike. Many of these species are not found at Roundup, but most are found below the Delphia-Melstone Diversion Dam at the town of Musselshell. Unverified reports of paddlefish being found in a field near Melstone were made as the flood waters of 2011 receded. FWP reported angling pressure of 2,360 angler days for the lower 80 miles of river in 1963. In 2009, the pressure was estimated to be 3,647 angler days.

HABITAT

Habitat issues requiring attention are habitat fragmentation from irrigation structures, meander cutoffs from railroad and road projects, and near dewatering of the Musselshell River. Channel instability due to a railway bed and highway projects cutting off meander bends has caused loss of habitat for fish. The flood of 2011 changed many sections of river by creating cutoffs and, in some cases, breaching the abandoned railroad berm, re-establishing some bends as well as flanking and bypassing several irrigation structures which reopened fish passage. Recent down-cutting of the channel has reduced channel length in the Musselshell River by about 8% for its full length and about 21% below Flatwillow Creek. Channel widening associated with the 2011 flood will strongly influence fish habitat. Dozens of miles of abandoned channel may also play an important role in the prairie stream and riparian ecosystem.

Over the past decade, the water judge, the Musselshell Distribution Project, and efforts of the Musselshell Water Coalition, have resulted in more water being conveyed in the main channel compared to the transition and warmwater zones. Additional water rights for instream flow would further improve conditions.

Coldwater Zone

Wetted perimeter analysis above Harlowton determined that 80 cfs is necessary to sustain a consistently high-quality wild brown trout fishery in the coldwater section. Bankfull flow near Martinsdale was approximated to be 1,060 cfs at a two-year recurrence interval, which typically occurs in June. The 1.25 year recurrence flow was reported as 514 cfs. These studies recommended a flow of 1,060 cfs be allowed to occur for at least 24 hours in June, with the remainder of June at 514 cfs to maintain channel habitat for trout production. As a minimum, observations at flows of 42.8 cfs indicated many riffles were exposed, and fish habitat along the banks was dewatered, leaving fish in cover-limited pools.

Transition Zone

Wetted perimeter analysis in a reach just downstream of the city of Roundup determined that a flow of 80 cfs is needed for fishery maintenance. In the 1980's, TFWP found some gravel bars were exposed at 76.7 cfs but determined that this flow still provided moderate fish habitat. The 2 year and 1.25 year recurrence flows were not reported for this zone. These values are important

to determine because they represent flows that typically maintain habitat and transport and redistribute silts and other sediments.

Warmwater Zone

Wetted perimeter analysis at the Mosby Bridge resulted in a recommendation of 70 cfs to be met year round for fishery maintenance. In the 1970's, bankful discharge for 2-year flood was estimated at 4,080 cfs, and 1.25-year flood was estimated at 1,860 cfs. It was recommended that these flows be provided annually during runoff, with 4,080 cfs for 24 hours and 1,860 cfs for several weeks after the high flow to help maintain fish habitat.

Studies determined that the Davis/Korenco Dam and Delphia-Melstone Dam create barriers for fish most of the time, but catfish and bass were able to bypass these structures during some high water events. Sauger and walleye were not documented passing these diversion dams. Because of tremendous overbank flooding in 2011, it is probable sauger, walleye and other species, if present, were able to bypass these dams. One burbot and a freshwater drum were caught below the Davis Dam in 1981 by FWP and a second burbot was reported by an angler as far up as Shawmut. These fish likely migrated from the Missouri River during spring flows. Good fishing can occur in the warmwater zone, but it is impaired due to erratic discharges and dams. If the Davis and Delphia-Melstone dams became passable to fish, it is likely other upstream dams would become the limiting factors to upstream fish movements during most flows. However, those upper dams represent less of a fish passage challenge than the lower two dams. FWP studies have also determined that the channel catfish in the warmwater zone often migrate between the Musselshell and the Middle Missouri Rivers.

FISHING ACCESS

The four FASs in this watershed are: Martinsdale Reservoir, Selkirk, Harlowton, and Deadmans Basin Reservoir, all in the Coldwater Zone. Other limited access can be found on Forest Service, BLM, state, county and city lands, and with permission by private landowners. Additional public access is needed throughout the basin, particularly in the warmwater zone. Recreation infrastructure on Bair Reservoir is in extremely poor condition.

SPECIAL MANAGEMENT ISSUES

The flood of 2011 created extensive opportunity in much of this management area to improve the river for fish and wildlife use. Water managers have improved instream flow conditions over the past decade with the Musselshell River Distribution Project. It is important that FWP continue to support this project. This area provides a great potential for developing and improving native sauger and channel catfish populations, and already supports a very good assemblage of native minnows and suckers that would benefit from additional habitat enhancement.

FISHERIES MANAGEMENT DIRECTION FOR MUSSELSHELL RIVER DRAINAGE

Water	Miles/acres	Species	Origin	Management Type	Management Direction
North Fork Musselshell - Headwaters to Bair Reservoir	11 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels
Habitat needs and activities: Maintain flows of 3 cfs for habitat.					
Bair Reservoir	221 acres	Rainbow trout, Westslope cutthroat trout	Hatchery	Put-Grow-Take	Continue stocking at current rates
		Brook trout	Wild	General	Manage as a recreational fishery with consumptive harvest.
North Fork Musselshell – Bair Reservoir to South Fork	16.5 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels
		Brown trout	Wild	General	Evaluate population and potential for reproduction and harvest.
		Westslope cutthroat trout	Wild	General	Hatchery fish from Bair Reservoir
Habitat needs and activities: Maintain flows of 16 cfs for habitat.					
Checkerboard Creek	6.5 miles	Brook trout, Brown trout, Rainbow trout	Wild	General	Manage all as a recreational fishery at historic levels
Habitat needs and activities: Maintain flows of 6 cfs for habitat.					
Spring Creek	12 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels
Habitat needs and activities: Maintain flows of 8 cfs for habitat.					
South Fork Musselshell River	30 miles	Brook trout, Brown trout, Rainbow trout	Wild	General	Manage all as a recreational fishery at historic levels
Habitat needs and activities: Maintain flows of 30 cfs for habitat.					
Alabaugh Creek	9 miles	Brook trout, Brown trout, Rainbow trout	Wild	General	Manage all as a recreational fishery at historic levels
Habitat needs and activities: Maintain flows of 12 cfs for habitat.					

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Cottonwood Creek	10.8 miles	Brook trout, Brown trout, Rainbow trout, Westslope cutthroat trout hybrids	Wild	Special Regulations	Manage as a recreational fishery at historic levels
Habitat needs and activities: Maintain flows of 16 cfs for habitat.					
Martinsdale Reservoir	947 acres	Rainbow trout, Westslope cutthroat trout Brown trout	Hatchery Wild	Put-Grow-Take General	Continue stocking at current rates Manage all as a recreational fishery with consumptive harvest.
Habitat needs and activities: Maintain connectivity work through programs to improve riparian area and stream habitat. Continue to support Musselshell River Distribution Project. Maintain flows of 80 cfs for habitat.					
Musselshell River Coldwater Zone (Confluence of North and South Forks to Barber)	53 miles	Brook trout, Rainbow trout, Brown trout, Mountain whitefish	Wild	General	Maintain and enhance populations
American Fork	34 miles	Brook trout, brown trout	Wild	General	Manage as a recreational fishery at historic levels.
Lebo Creek	32 miles	Native minnow	Wild	Conservation	
Lebo Lake	309 acres	Tiger muskie, Rainbow trout, Brown trout	Hatchery	Put-Grow-Take	Not currently managed. Former Private Pond/Public Fishing pond. Would like to re-establish access and manage for species indicated.
Big Elk Creek	25 miles	Brook trout, Brown trout	Wild	General	Manage as a recreational fishery at historic levels.
Daisy Dean Creek	28 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels.
Habitat needs and activities: Work with USFS for solutions to reduce/prevent impacts on riparian area from ATV traffic on Daisy Dean.					
Chief Joseph Pond	2 acres	Rainbow trout	Hatchery	Put-Take	Continue stocking at current rates
Forest Lake	21 acres	Cutthroat hybrids	Wild	General	Evaluate periodically. Manage as a recreational fishery at historic levels

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Haymaker/ East Fork Haymaker	30 miles	Yellowstone Westslope cutthroat trout	Wild	General	Manage as a recreational fishery at historic levels
Deadmans Reservoir	2,120 acres	Tiger muskie	Hatchery	Put-Grow-Take/ Quality	Continue stocking at current rates, limit harvest to 1 over 40". Used to reduce sucker population in reservoir to improve trout and salmon growth.
		Rainbow trout, Kokanee salmon	Hatchery	Put-Grow-Take	Stock at current rates
Musselshell River Transition Zone (Barber to Roundup)	138 miles	Smallmouth bass	Wild	General	Evaluate 1970/1980's stocking to maintain fishery
		Channel catfish	Wild	Conservation	Reintroduce/enhance population and expand to Deadmans Diversion. Consider potential for fish transfers and stocking to accomplish.
		Sauger	Wild	Conservation	Consider expanding population to Deadmans Diversion. Consider potential for fish transfers And stocking to accomplish.
		Native minnow assemblage	Wild	General	Improve or maintain habitat and water conditions
Habitat needs and activities: Improve habitat to support ecosystem function and production of trout, whitefish, and native minnow and sucker populations. Maintain flows of 80 cfs for habitat in the Musselshell River					
Fish Creek	86 miles	Brook trout,	Wild	General	Manage as a recreational fishery at historic levels.
		Native minnow assemblage	Wild	Conservation	Improve or maintain habitat and water conditions
Careless Creek and Little Careless Creek	68 miles	Native minnow and sucker populations	Wild	Conservation	Improve and maintain fish passage this tributary has one of the best native minnow populations in the area.
Big Coulee	51 miles	Native minnow Sucker species	Wild	Conservation	Improve or maintain habitat and water conditions

Water	Miles/acres	Species	Origin	Management Type	Management Direction
Painted Robe Creek	38 miles	Native minnow Sucker species	Wild	Conservation	Improve or maintain habitat and water conditions
Swimming Woman Creek	33 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels.
		Native minnow Sucker species	Wild	Conservation	Improve or maintain habitat and water conditions
Currant Creek	60 miles	Native minnow Sucker species	Wild	Conservation	Improve or maintain habitat and water conditions
Musselshell River Warm water Zone (Roundup to Confluence with Missouri River)	151 miles	Smallmouth bass	Wild	General	Manage as a recreational fishery at historic levels.
		Channel catfish	Wild	Conservation	Manage as a recreational fishery at historic levels.
		Sauger	Wild	Conservation	Limited population consider stocking and wild fish transfers from other waters
		Native minnow assemblage	Wild	Conservation	Improve or maintain habitat and water conditions
		Drum	Wild	Conservation	Maintain viable population
		Rainbow trout	Hatchery	Put-Grow-Take	Continue stocking reservoirs annually
		Burbot	Wild	Conservation	Evaluate population, improve fishery
		Walleye	Wild	General	Evaluate population movements and influence on other fish consider increasing harvest
Habitat needs and activities: Continue to manage connectivity to favor native fish. Maintain instream flow of 70 cfs on the Musselshell downstream of the Musselshell Diversion dam for habitat. Establish additional gage stations.					
Willow Creek	71 miles	Brook trout	Wild	General	Maintain viable population
		Native minnow Sucker species	Wild	Conservation	Improve or maintain habitat and water conditions
Flatwillow Creek	118 miles	Brook trout, Brown trout,	Wild	General	Manage all as a recreational fishery at historic levels

Continued on next page

Water	Miles/acres	Species	Origin	Management Type	Management Direction
		Native minnow Sucker species	Wild	Conservation	Improve or maintain habitat and water conditions
Habitat needs and activities: Maintain flows of 15 cfs for habitat. Additional access is needed upstream of highway 87.					
South Fork Flatwillow Creek	23 miles	Brook trout	Wild	General	Manage all as a recreational fishery at historic levels
North Fork Flatwillow Creek	25 miles	Brook trout	Wild	General	Manage as a recreational fishery at historic levels
Tributaries to Flatwillow and Box Elder Collar Gulch and Halfmoon Creek	5 miles	Westslope cutthroat trout	Wild	Conservation	Enhance and protect populations. Continue to work on project to expand westslope cutthroat trout in the Judith Mountains.
Habitat needs and activities: Maintain flows of 0.6 cfs for habitat in Collar Gulch Creek.					
Petrolia Reservoir	518 acres	Walleye, Rainbow trout Northern pike, Yellow perch	Hatchery Wild	Put-Grow-Take General	Manage as a recreational fishery with consumptive harvest Manage as a recreational fishery at historic levels.
Jakes Reservoir	18 acres	Sauger Yellow perch	Wild Wild	General General	Evaluate options for additional stocking of sauger such as via wild fish transfer. Manage as a recreational fishery with consumptive harvest
Numerous BLM Ponds		Largemouth bass, Crappie, Rainbow trout	Hatchery	Put-Grow-Take	Maintain stocking at current rates Manage recreational fisheries with consumptive harvest
Habitat needs and activities: Coordinate with BLM for water level management, dam repair and habitat concerns.					
Numerous Private Ponds Public Fishing		Largemouth bass, Rainbow trout	Hatchery	Put-Grow-Take	Maintain stocking at current rates